

# Truth in Testimony Disclosure Form

In accordance with Rule XI, clause 2(g)(5)\* of the *Rules of the House of Representatives*, witnesses are asked to disclose the following information. Please complete this form electronically by filling in the provided blanks.

**Committee:** Financial Services

**Subcommittee:** National Security, International Development, and Monetary Policy

**Hearing Date:** 07/27/2021

**Hearing Title** :

The Promises and Perils of Central Bank Digital Currencies

**Witness Name:** Andrew Theo Levin

**Position/Title:** Professor of Economics, Dartmouth College

**Witness Type:** ☐ Governmental ☒ Non-governmental

**Are you representing yourself or an organization?** ☒ Self ☐ Organization

**If you are representing an organization, please list what entity or entities you are representing:**

## **FOR WITNESSES APPEARING IN A NON-GOVERNMENTAL CAPACITY**

Please complete the following fields. If necessary, attach additional sheet(s) to provide more information.

**Are you a fiduciary—including, but not limited to, a director, officer, advisor, or resident agent—of any organization or entity that has an interest in the subject matter of the hearing? If so, please list the name of the organization(s) or entities.**

N/A

**Please list any federal grants or contracts (including subgrants or subcontracts) related to the hearing's subject matter that you, the organization(s) you represent, or entities for which you serve as a fiduciary have received in the past thirty-six months from the date of the hearing. Include the source and amount of each grant or contract.**

N/A

**Please list any contracts, grants, or payments originating with a foreign government and related to the hearing's subject that you, the organization(s) you represent, or entities for which you serve as a fiduciary have received in the past thirty-six months from the date of the hearing. Include the amount and country of origin of each contract or payment.**

Please see attached list.

**Please complete the following fields. If necessary, attach additional sheet(s) to provide more information.**

- ☒ I have attached a written statement of proposed testimony.
- ☒ I have attached my curriculum vitae or biography.

\*Rule XI, clause 2(g)(5), of the U.S. House of Representatives provides:

(5)(A) Each committee shall, to the greatest extent practicable, require witnesses who appear before it to submit in advance written statements of proposed testimony and to limit their initial presentations to the committee to brief summaries thereof.

(B) In the case of a witness appearing in a non-governmental capacity, a written statement of proposed testimony shall include— (i) a curriculum vitae; (ii) a disclosure of any Federal grants or contracts, or contracts, grants, or payments originating with a foreign government, received during the past 36 months by the witness or by an entity represented by the witness and related to the subject matter of the hearing; and (iii) a disclosure of whether the witness is a fiduciary (including, but not limited to, a director, officer, advisor, or resident agent) of any organization or entity that has an interest in the subject matter of the hearing.

(C) The disclosure referred to in subdivision (B)(iii) shall include— (i) the amount and source of each Federal grant (or subgrant thereof) or contract (or subcontract thereof) related to the subject matter of the hearing; and (ii) the amount and country of origin of any payment or contract related to the subject matter of the hearing originating with a foreign government.

(D) Such statements, with appropriate redactions to protect the privacy or security of the witness, shall be made publicly available in electronic form 24 hours before the witness appears to the extent practicable, but not later than one day after the witness appears.

**False Statements Certification**

Knowingly providing material false information to this committee/subcommittee, or knowingly concealing material information from this committee/subcommittee, is a crime (18 U.S.C. § 1001). This form will be made part of the hearing record.

A black rectangular box redacting the signature of the witness.

\_\_\_\_\_  
Witness signature

7/26/21

\_\_\_\_\_  
Date

Andrew Levin  
Professor of Economics  
Dartmouth College

Truth in Testimony Form  
Hearing on Central Bank Digital Currencies  
Subcommittee on National Security, International Development, and Monetary Policy  
Committee on Financial Services, U.S. House of Representatives  
July 27, 2021

**List of contracts and payments originating with a foreign government and related to the hearing's subject that I have received in the past thirty-six months from the date of the hearing:**

- 7/3/2018: Bank of Japan reimbursed me \$13,381 for my travel expenses associated with my presentation on central bank digital currency at the BOJ's annual research conference in May 2018.
- 7/27/2018: The Reserve Bank of New Zealand reimbursed me \$4,520 for my travel expenses as a visiting scholar at the RBNZ during July 2018.
- 9/6/2018: The Central Bank of the Philippines paid me an honorarium of \$3,500 for giving a presentation on central bank digital currencies at the annual meeting of central bank governors from East Asia and the Pacific (EMEAP).
- 11/26/2018: The European Central Bank reimbursed me \$11,372 for my travel expenses associated with participating in an ECB research conference on central bank balance sheets.
- 4/10/2019: The Reserve Bank of Australia paid me an honorarium of \$5000 for my chapter on central bank governance that was published in the RBA's annual research conference volume.
- 5/13/2019: The Swedish central bank (Sveriges Riksbank) reimbursed me \$4,471 for travel expenses associated with my visit to the Riksbank in December 2018.
- 9/9/2019: The Norwegian central bank (Norges Bank) paid me an honorarium of \$2,206 and reimbursed me for \$8,095 in travel expenses associated with my visits to Norges Bank in December 2018 and June 2019.
- 11/12/2019: The Swedish central bank paid me \$20,000 in compensation for my work as a scientific advisor on their e-krona digital currency project from October 2018 through September 2019. The Riksbank also reimbursed me for \$5,006 in travel expenses for visits during that period.
- 1/10/2020: The European Central Bank reimbursed me \$11,707 for my travel expenses associated with giving a presentation at an ECB research conference in October 2019.
- 2/26/2020: The Swedish central bank reimbursed me \$8,185 in travel expenses for my visit to Stockholm during January 2020.
- 10/13/2020: The Swedish central bank paid me \$10,000 in compensation for my work as a scientific advisor on their e-krona digital currency project from October 2019 to March 2020.

## ANDREW THEO LEVIN

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### EDUCATION

1980-84: B.A. in Economics and Mathematics, Yale University (*graduated summa cum laude*).

1984-89: Ph.D. in Economics, Stanford University (*Alfred P. Sloan Dissertation Fellow*).

### EMPLOYMENT

2015-present: Professor of Economics, Dartmouth College.

2012-2015: International Monetary Fund (*research fellow 2013-14; adviser 2014-15*).

1992-2012: Federal Reserve Board (*economist 1992-2004; section chief, 2005-2007; oversight officer 2008-2010; special advisor to the Board on monetary policy strategy & communication 2010-2012*).

1989-92: Assistant Professor of Economics, University of California, San Diego.

### PROFESSIONAL AFFILIATIONS

Member, Shadow Open Market Committee (*March 2019 to present*).

Visiting Scholar, International Monetary Fund (*July 2015 - present*).

Research Associate, National Bureau for Economic Research, Cambridge, MA.

Research Fellow, Centre for Economic Policy Research, London.

### PREVIOUS PROFESSIONAL AFFILIATIONS

2019-20: Scientific Adviser for E-Krona Project, Sveriges Riksbank

2018-20: Scientific Adviser, Norges Bank

2016-17: External Advisor, Bank of Korea

2015-17: Visiting Scholar, Bank of Canada

2012-13: Visiting Scholar, International Monetary Fund.

2007-11: Co-Editor, International Journal of Central Banking

2007-08: Committee Member, External Review of Research Activities, Bank of Canada

2003-05: External Consultant, Inflation Persistence Network, European Central Bank

## **JOURNAL ARTICLES**

- “Assessing the Age Specificity of Infection Fatality Rates for COVID-19: Systematic Review, Meta-Analysis, and Policy Implications” (with W. Hanage, N. Owusu-Boaitey, S. Walsh, K. Cochran, and G. Meyerowitz-Katz). 2020. *European Journal of Epidemiology*.
- “Pitfalls of Make-Up Strategies for Mitigating the Effective Lower Bound” (with A. Sinha). 2020. *Cato Journal*.
- “The Rationale for Issuing E-Krona in the Digital Era” (with H. Armelius, G. Guibourg, and G. Soderberg). 2020. *Sveriges Riksbank Economic Review*, 2:7-18.
- “U.S. Digital Cash: Principles & Practical Steps” (with M. Bordo). 2019. *Cato Journal*.
- “Policy Credibility and Alternative Approaches to Disinflation” (with M. Bordo, C. Erceg, and R. Michaels). 2017. *Research in Economics*, 71:422-440.
- “Cyclical Changes in Firm Volatility” (with E. DeVeirman). 2018. *Journal of Money, Credit and Banking*, 50:317-349.
- “The Design and Communication of Systematic Monetary Policy Strategies.” 2014. *Journal of Economic Dynamics and Control*, 49:52-69.
- “Labor Force Participation and Monetary Policy in the Wake of the Great Recession” (with C. Erceg). 2014. *Journal of Money, Credit and Banking*, 46:3-49.
- “When Did Firms Become More Different? Time-Varying Firm-Specific Volatility in Japan” (with E. De Veirman). 2012. *Journal of the Japanese and International Economies*, 26:578-601.
- “Are Long-Run Inflation Expectations More Firmly Anchored in the Euro Area than in the United States?” (with M. Beechey and B. Johannssen). 2011. *American Economic Journal: Macroeconomics*, 3:104-129.
- “Bifurcation in Perturbation Analysis: Calvo Pricing Examples” (with J. Kim and T. Yun). 2011. *Computational Economics*, 37:221-236.
- “Does Inflation Targeting Anchor Long-Run Inflation Expectations? Evidence from Long-Term Bond Yields in the U.S., U.K., and Sweden” (with R. Gurkaynak and E. Swanson). 2010. *Journal of the European Economic Association*, 8:1208-1242.
- “Limitations on the Effectiveness of Forward Guidance at the Zero Lower Bound” (with D. López-Salido, E. Nelson, and T. Yun). 2010. *International Journal of Central Banking*, 6:143-189.
- “Macroeconometric Equivalence, Microeconomic Dissonance, and the Design of Monetary Policy” (with D. López-Salido, E. Nelson, and T. Yun). 2008. *Journal of Monetary Economics*, 55:S48-S62.

**Journal Articles (contd.)**

- “Identifying Nominal and Real Rigidities in Aggregate Price-Setting Behavior” (with G. Coenen and K. Christoffel). 2007. *Journal of Monetary Economics*, 54:2439-2466.
- “Reconsidering the Natural Rate Hypothesis in a New Keynesian Framework” (with T. Yun). 2007. *Journal of Monetary Economics*, 54:1344-1365.
- “Optimal Monetary Policy with Durable Consumption Goods” (with C.J. Erceg). 2006. *Journal of Monetary Economics*, 53:1341-1359.
- “Inflation Targeting And The Anchoring Of Inflation Expectations In The Western Hemisphere” (with R. Gürkaynak, A. Marder, and E. Swanson). 2006. *Journal Economía Chilena* , 9:19-52.
- “Sectoral and Aggregate Inflation Dynamics in the Euro Area” (with F. Altissimo, L. Bilke, T. Mathä, B. Mojon). 2006. *Journal of the European Economic Association*, 4:585-593.
- “New Evidence on Inflation Persistence and Price Stickiness in the Euro Area: Implications for Macro Modelling” (with I. Angeloni, L. Aucremanne, M. Ehrmann, J. Gali, and F. Smets). 2006. *Journal of the European Economic Association* , 4:562-574.
- “Data Uncertainty and the Role of Money as an Information Variable for Monetary Policy” (with G. Coenen and V. Wieland). 2005. *European Economic Review* 49:975-1006.
- “The Macroeconomic Effects of Inflation Targeting” (with F. Natalucci and J. Piger). 2004. *Federal Reserve Bank of St. Louis Economic Review*, 86:51-80.
- “Robust Monetary Policy Rules with Competing Reference Models” (with J. Williams). 2003. *Journal of Monetary Economics*, 50:945-975.
- “Patience, Persistence, and Welfare Costs of Incomplete Markets in Open Economies” (with J. Kim and S.H. Kim). 2003. *Journal of International Economics*, 61:385-396.
- “Performance of Forecast-Based Monetary Policy Rules under Model Uncertainty” (with V. Wieland and J. Williams). 2003. *American Economic Review*, 93:622-645.
- “Imperfect Credibility and Inflation Persistence” (with C. Erceg). 2003. *Journal of Monetary Economics*, 50:915-944.
- “Recent Improvements in US Macroeconomic Stability: Good Policy, Good Practices, or Good Luck?” (with S. Ahmed and B. Wilson). 2004. *Review of Economics and Statistics*, 86:824-832.
- “Unit Roots in Panel Data: Asymptotic and Finite-Sample Properties” (with C. Lin and C. Chu). 2002. *Journal of Econometrics*, 108:1-24.
- “What Determines Support for Affirmative Action?” (with M. Iyigun). 2002. *Southern Economic Journal*, 69:612-627.

**Journal Articles (contd.)**

- “Optimal Monetary Policy with Staggered Wage and Price Setting” (with C.J. Erceg and D.W. Henderson). 2000. *Journal of Monetary Economics*, 46:281-313.
- “The Evolution of Macro Models at the Federal Reserve Board” (with F. Brayton, R. Tryon, and J. Williams). 1997. *Carnegie-Rochester Conference Series on Public Policy*, 42:115-167.
- “Complementarities between Exports and Human Capital in Economic Development: Evidence from the Semi-Industrialized Countries” (with L.K. Raut). 1997. *Economic Development and Cultural Change*, 46:155-74.
- “Evaluating International Economic Policy with the Federal Reserve’s Global Model” (with J. Rogers and R. Tryon). 1997. *Federal Reserve Bulletin*, 83:797-817.

**OTHER PUBLICATIONS**

- “Limitations on the Effectiveness of Monetary Policy Forward Guidance in the Context of the COVID-19 Pandemic” (with A. Sinha). 2020. National Bureau of Economic Research Working Paper 27748.
- “Assessing the Age Specificity of Infection Fatality Rates for COVID-19: Systematic Review, Meta-Analysis, and Policy Implications” (with W. Hanage, N. Owusu-Boaitey, S. Walsh, K. Cochran, and G. Meyerowitz-Katz). 2020. National Bureau of Economic Research Working Paper 27597.
- “Do Monetary Policy Frameworks Matter in Low-Income Countries?” (with A. Carare, C. de Resende, and C. Zhang). 2020. International Monetary Fund Working Paper 20-139.
- “Incorporating Scenario Analysis into the Federal Reserve’s Policy Strategy and Communications” (with M. Bordo and M. Levy). 2020. National Bureau of Economic Research Working Paper 27369.
- “Comment: The Case for Negative Interest Rates.” Forthcoming. In: J. Cochrane and J. Taylor, eds., *Strategies for Monetary Policy*. Hoover Press.
- “Hope for the Best, Prepare for the Worst: The Federal Reserve’s Monetary Toolbox for Mitigating Severe Adverse Shocks.” Manuscript, Dartmouth College.
- “Digital Cash: Principles & Practical Steps” (with M. Bordo). 2019. National Bureau of Economic Research Working Paper 25455.
- “Central Bank Digital Cash: Principles & Practical Steps.” 2018. In: E. Gnan and D. Masciandaro (eds.), *Do We Need Central Bank Digital Currency? Economics, Technology and Institutions*. Vienna, Austria: SUEF. pp.132-151.



**Other Publications (contd.)**

- “Robust Design Principles for Monetary Policy Committees.” 2019. In: J. Simon (ed.), *RBA Annual Conference Volume*. Sydney, Australia: Reserve Bank of Australia. pp.233-251.
- “Central Bank Digital Currency and the Future of Monetary Policy” (with M. Bordo). 2017. National Bureau of Economic Research Working Paper 23711.
- “Comment: Goals vs. Rules as Central Bank Performance Measures.” 2017. In: J. Cochrane and J. Taylor, eds., *Central Bank Governance and Oversight Reform*. Hoover Press.
- “Making the Federal Reserve Fully Public: Why and How” (with J. Haedtler and V. Wilson). 2016. Economic Policy Institute, Washington, DC.
- “Labor Market Slack and Monetary Policy” (with D. Blanchflower). 2015. National Bureau of Economic Research Working Paper 21094.
- “Evolving Monetary Policy Frameworks in Low-Income and Other Developing Countries” (with A. Berg, R. Anand, R. Bi, B. Baltabaev, S. Jahan, D. King, S. Kothari, B. Laurens, T. Mancini, N. Maehle, M. Opoku-Afari, C. Patillo, R. Portillo, A. Remo, G. Shabsigh, F. Unsal, and D. Vavra). 2015. *International Monetary Fund Policy Paper*.
- “Monetary Policy in Selected Sub-Saharan African Currency Unions.” 2015. In: “Evolving Monetary Policy Frameworks in Low-Income and Other Developing Countries: Background Paper—Country Experiences,” *International Monetary Fund Policy Paper*, pp.69-72.
- “Establishing and Maintaining a Firm Nominal Anchor.” 2014. *International Journal of Central Banking*, 10:405-412.
- “Comment: Chronic Deflation in Japan.” 2014. *Asian Economic Policy Review*, 9:42-43.
- “Falling Behind the Curve: A Positive Analysis of Stop-Start Monetary Policies and the Great Inflation” (with J. Taylor). 2013. In: M. Bordo and A. Orphanides, eds., *The Great Inflation: The Rebirth of Modern Central Banking*. University of Chicago Press.
- “Comment: Monetary Policy in Europe vs the United States; What Explains the Difference?” 2009. In: J. Gali and M. Gertler, eds., *International Dimensions of Monetary Policy*. University of Chicago Press.
- “Comment: Optimal monetary policy under uncertainty--a Markov jump-linear-quadratic approach.” 2008. *Federal Reserve Bank of St. Louis Economic Review*, pp.301-306.
- “Comment: Measuring the Macroeconomic Risks Posed by Asset Price Booms.” 2008. In: J. Campbell, ed., *Asset Prices and Monetary Policy*. University of Chicago Press.
- “Frictions in the Markets for Corporate Debt and Credit Derivatives” (with R. Perli and E. Zakrajšek). 2007. In: *Proceedings of the Fourth Central Bank Conference on Risk Management and Systemic Risk*. Frankfurt: European Central Bank.

**Other Publications (contd.)**

- “Micro Evidence on Price-Setting Behavior: Policy Lessons and Directions for Ongoing Research” (with V. Gaspar, F. Martins, and F. Smets). 2007. In: S. Fabiani, C. Loupias, F. Martins, R. Sabbatini, eds., *Pricing Decisions in the Euro Area: How Firms Set Prices and Why*. Oxford University Press.
- “Monetary Policy under Uncertainty in Micro-Founded Macroeconometric Models” (with A. Onatski, N. Williams, and J. Williams). 2006. In: Gertler, M., Rogoff, K., eds., *NBER Macroeconomics Annual 2005*. MIT Press.
- “Macroeconomic Stability and Poverty Reduction” (with S. Smith). 2005. In: Dean, J., Schaffner, J., Smith, S., eds., *Attacking Poverty in the Developing World*. World Vision Press.
- “Comment: Parameter Misspecification with Optimal Targeting Rules and Endogenous Objectives.” 2005. *Journal of Monetary Economics* 52, 1016-1021.
- “Comment: Monetary Policy Rules in the Open Economy.” 2002. *Journal of Monetary Economics*, 49, pp.1017-1023.
- “The Robustness of Simple Monetary Policy Rules under Model Uncertainty” (with V. Wieland and J. Williams). 1999. In: Taylor, J., ed., *Monetary Policy Rules*. U. Chicago Press.
- “Comment: Wage dispersion and country price levels.” 1999. In: A. Heston and R. Lipsey, eds., *Income and Wealth: International and Interarea Comparisons of Income, Output and Prices*. University of Chicago Press.
- “A Practitioner’s Guide to Robust Covariance Matrix Estimation Procedures” (with W. Den Haan). 1997. In: G. Maddala and C. Rao, eds., *Handbook of Statistics* 15. Elsevier Press.
- “A Comparison of Alternative Monetary Policy Rules in the Federal Reserve’s Multi-Country Model.” 1996. In: *The Determination of Long-Term Interest Rates and Exchange Rates and the Role of Expectations*, Bank for International Settlements.
- “Review: *Estimation and Inference in Econometrics* by R. Davidson and J. MacKinnon.” 1994. *Journal of the American Statistical Association*, 89:1143-44.

## **RECENT PRESENTATIONS**

*January 2021: Presentation on “Assessing Shortfalls from Full Employment”, Shadow Open Market Committee online meeting.*

*November 2020: Presentation on “Assessing the Age Specificity of Infection Fatality Rates for COVID-19”, NBER Health Economics Online Conference on COVID-19.*

*October 2020: Video Presentation on “Assessing the Age Specificity of Infection Fatality Rates for COVID-19”, National Bureau for Economic Research, Cambridge, MA.*

*September 2020: Presentation on “Strengthening the Federal Reserve’s Governance”, Shadow Open Market Committee online meeting.*

*June 2020: Presentation on “Incorporating Scenario Analysis into the Federal Reserve’s Policy Strategy & Communications”, Shadow Open Market Committee online conference.*

*March 2020: Presentation on “Hope for the Best, Prepare for the Worst: The Federal Reserve’s Monetary Toolbox for Mitigating Severe Adverse Shocks,” Shadow Open Market Committee meeting, Manhattan Institute, New York, NY.*

*January 2020: Presentation on “The Rationale for Issuing E-Krona in the Digital Era”, Sveriges Riksbank seminar, Stockholm, Sweden.*

*November 2019: Presentation on “Imperfect Credibility of Forward Guidance Strategies for Mitigating the Effective Lower Bound,” Credibility Conference, Laboratory for Aggregate Economics & Finance, Santa Barbara, CA.*

*November 2019: Presentation on “Pitfalls of Make-Up Strategies for Mitigating the Effective Lower Bound,” Cato Monetary Policy Conference, Washington, DC.*

*October 2019: Presentation on “Digital Cash: Principles & Practical Steps”, Bank of Canada/Sveriges Riksbank Conference on Central Bank Digital Currency, Ottawa, Canada.*

*October 2019: Discussant, ECB Monetary Policy Conference, Frankfurt, Germany.*

*September 2019: Presentation on “Assessing the Federal Reserve’s Toolbox for Providing Monetary Stimulus at the Effective Lower Bound,” Shadow Open Market Committee meeting, Manhattan Institute, New York, NY.*

*July 2019: Seminars on “Design Principles for Monetary Policy Committees” and “Central Bank Digital Cash”, Bank of England, London.*

*July 2019: Seminar on “Central Bank Digital Cash”, Monetary & Capital Markets Department, International Monetary Fund, Washington DC.*

*June 2019: Presentation on “U.S. Digital Cash: Principles & Practical Steps”, Shadow Open Market Committee Conference, Chapman University, Orange, CA.*

*May 2019: Session Chair, Asian Monetary Policy Forum, Singapore.*

*May 2019: Remarks on narrow banking, American Enterprise Institute forum, Washington DC.*

*May 2019: Discussant, Hoover Institution Monetary Policy Conference, Stanford, CA.*

*January 2019: Remarks on “Improving Federal Reserve Transparency and Accountability” Institute for Human Studies workshop, Atlanta, GA.*

*December 2018: Remarks on digital cash, Sveriges Riksbank public forum, Stockholm, Sweden.*

*December 2018: Presentation on “Central Bank Digital Cash: Principles & Practical Steps” Sveriges Riksbank policy seminar.*

**Recent Presentations (contd.)**

*November 2018:* Presentation on “*U.S. Digital Cash: Principles & Practical Steps*”, Cato Institute monetary policy conference, Washington DC.

*November 2018:* Seminar on “*Monetary Policy and Labor Markets*”, International Monetary Fund, Washington DC.

*October 2018:* Discussant, Notre Dame University memorial research conference in honor of Charles Carlstrom and Timothy Fuerst, South Bend, IN.

*September 2018:* Presentation on “*Transparency in Central Bank Financial Statements*”, European Central Bank conference on Central Bank Accounting, Frankfurt, Germany.

*August 2018:* Presentation on “*Central Bank Digital Cash*”, Executive Meeting of East Asian Central Bank Governors and Heads of Supervisory Authorities, Manila, Philippines.

*August 2018:* Lecture on “*Central Bank Digital Currency*”, Bangko Sentral ng Pilipinas, Manila, Philippines.

*August 2018:* Presentation on “*Central Bank Digital Currency and the Future of Monetary Policy*”, Federal Reserve Bank of St. Louis conference, St. Louis, MO.

*July 2018:* Presentation on “*Monetary Policy Frameworks: Lessons from the U.S. Experience*”, IMF central banking forum, Singapore.

*July 2018:* Seminars on “*Robust Design Principles for Monetary Policy Committees*” and “*Central Bank Digital Currency*”, Reserve Bank of New Zealand, Wellington, New Zealand.

*June 2018:* Presentation on “*Central Bank Digital Currency and the Future of Monetary Policy*”, SUEF research conference, Milan, Italy.

*June 2018:* Presentations on “*Current Issues in Monetary Policy for Developing Countries*” and “*Current Issues in Monetary Policy for Advanced Economies*”, International Monetary Fund policy seminar, Washington DC.

*May 2018:* Presentation on “*Central Bank Digital Currency and the Future of Monetary Policy*” Bank of Japan annual research conference, Tokyo, Japan.

*April 2018:* Presentation on “*Robust Design Principles for Monetary Policy Committees*”, Reserve Bank of Australia annual research conference, Sydney, Australia.

*March 2018:* Remarks on “*U.S. Monetary Policy: Outlook, Risks, and Challenges*”, Brookings Institution global economy conference, Washington, DC.

*March 2018:* Presentation on “*Central Bank Digital Currency and the Future of Monetary Policy*”, Shadow Open Market Committee meeting, New York, NY.

*January 2018:* Discussant, panel on monetary policy and financial stability, American Economic Association annual meetings, Philadelphia, PA.

*December 2017:* Seminar on “*Central Bank Digital Currency and the Future of Monetary Policy*”, International Monetary Fund, Washington, DC.

*November 2017:* Testimony on “*Federal Reserve Reform Legislation*”, Monetary Policy Subcommittee, U.S. House of Representatives, Washington, DC.

*October 2017:* Presentation on “*Central Bank Digital Currency and the Future of Monetary Policy*”, Bank for International Settlements payments conference, Tokyo, Japan.

**Recent Presentations (contd.)**

*October 2017:* Public lecture on “*Central Bank Digital Currency and the Future of Monetary Policy*”, University of Tokyo, Japan.

*September 2017:* Presentation on “*Re-examining the Conduct of Monetary Policy*”, Bank of Canada Framework Renewal Conference, Ottawa, Canada.

*September 2017:* Seminar on “*Central Bank Digital Currency and the Future of Monetary Policy*”, Sveriges Riksbank, Stockholm, Sweden.

*July 2017:* Lecture on “*Central Bank Digital Currency and the Future of Monetary Policy*” Fondo Latinoamericano de Reservas conference, Cartagena, Colombia.

*May 2017:* Presentation on “*Central Bank Digital Currency and the Future of Monetary Policy*”, Hoover Institute monetary policy conference, Stanford, CA.

*March 2017:* Remarks on monetary policy, Conference of State Bank Supervisors meeting, Washington DC.

*March 2017:* Seminars on “*Robust Design Principles for Monetary Policy Committees*” and “*Sovereign Digital Currencies and the Future of Monetary Policy*”, Bank of Canada, Ottawa.

*October 2016:* Lecture on “*Robust Design Principles for Monetary Policy Committees*”, Korean Economic Association annual meeting, Seoul, Korea.

*October 2016:* Seminar on “*Robust Design Principles for Monetary Policy Committees*”, Bank of Korea, Seoul.